AMENDMENTS TO THE CLAIMS

1. (presently amended) A compound that has formula (I):

P^1-S^1-B^1-M-X

or a derivative thereof, wherein:

P^1 is a triphosphate group;

S^1 is a ribose~~, a deoxyribose~~ or a dideoxyribose;

B^1 is a nucleobase;

X is a protected or unprotected hydrazino group, a protected or unprotected oxyamino group, or a carbonyl derivative; and

M is a divalent group comprising any combination of any the following groups, which are combined in any order: arylene, heteroarylene, cycloalkylene, $C(R^1)_2$, $-C(R^1)=C(R^1)-$, $>C=C(R^2)(R^3)$, $>C(R^2)(R^3)$, $-C\equiv C-$, O, $S(A)_a$, $P(D)_b(R^1)$, $P(D)_b(ER^1)$, $N(R^1)$, $>N^+(R^2)(R^3)$ and C(E); where a is 0, 1 or 2; b is 0, 1, 2 or 3; A is O or NR^1; D is S or O; and E is S, O or NR^1;

each R^1 is a monovalent group independently selected from hydrogen and M^1-R^4;

each M^1 is a divalent group each independently comprising anyu combination of the following groups, which groups are combined in any order: a direct link, arylene, heteroarylene, cycloalkylene, $C(R^5)_2$, $-C(R^5)=C(R^5)-$, $>C=C(R^2)(R^3)$, $>C(R^2)(R^3)$, $-C\equiv C-$, O, $S(A)_a$, $P(D)_b(R^5)$, $P(D)_b(ER^5)$, $N(R^5)$, $N(COR^5)$, $>N^+(R^2)(R^3)$ and C(E); where a is 0, 1 or 2; b is 0, 1, 2 or 3; A is O or NR^5; D is S or O; and E is S, O or NR^5;

R^4 and R^5 are each independently selected from the group consisting of hydrogen, halo, pseudohalo, cyano,

azido, nitro, $SiR^6R^7R^8$, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and NR^9R^{10};

R^9 and R^{10} are each independently selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl and heterocyclyl;

R^2 and R^3 are selected from (i) or (ii) as follows:

(i) R^2 and R^3 are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl and heteroaryl; or

(ii) R^2 and R^3 together form alkylene, alkenylene or cycloalkylene;

R^6, R^7 and R^8 are each independently a monovalent group selected from hydrogen, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and NR^9R^{10}; and

each R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9 and R^{10} is unsubstituted or substituted with one or more substituents each independently selected from Z, wherein Z is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, cycloalkenyl, hydroxy, $S(O)_hR^{20}$, $NR^{20}R^{21}$, $COOR^{20}$, COR^{20}, $CONR^{20}R^{21}$, $OC(O)NR^{20}R^{21}$, $N(R^{20})C(O)R^{21}$, alkoxy, aryloxy, heteroaryl, heterocyclyl, heteroaryloxy, heterocyclyloxy, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, aralkoxy, heteroaralkoxy, alkoxycarbonyl, carbamoyl, thiocarbamoyl, alkoxycarbonyl,

carboxyaryl, halo, pseudohalo, haloalkyl and carboxamido; h is 0, 1 or 2; and R^{20} and R^{21} are each independently selected from the group consisting of hydrogen, halo, pseudohalo, cyano, azido, nitro, trialkylsilyl, dialkylarylsilyl, alkyldiarylsilyl, triarylsilyl, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy, amino, amido, alkylamino, dialkylamino, alkylarylamino, diarylamino and arylamino.

2. (original) The compound of claim 1, wherein X is a protected hydrazino group.

3. (original) The compound of claim 1, wherein X is a carbonyl group.

4. (original) The compound of claim 3, wherein X is an aldehyde or ketone group.

5. (original) The compound of claim 1, wherein X is a protected oxyamino group.

6. (original) The compound of claim 1, wherein the protecting group is a salt, an amine protecting group, or a hydrazine protecting group.

7. (original) The compound of claim 1, wherein M has 1-50 of the following groups, which can be combined in any order: arylene, heteroarylene, $C(R^5)_2$, O, $S(A)_a$, $N(R^5)$, $N(COR^5)$ and C(E); where a is 0, 1 or 2; A is O or NR^5; and E is S, O or NR^5.

8. (original) The compound of claim 1, wherein M has 1-50 of the following groups, which can be combined in any order: heteroarylene, $C(R^5)_2$, $N(R^5)$ and C(E); where E is S, O or NR^5.

9. (original) The compound of claim 1, wherein M has 1-50 of the following groups, which can be combined in any order: arylene, $C(R^5)_2$, $N(R^5)$ and C(E); where E is S, O or NR^5.

10. (original) The compound of claim 1, wherein M is a chain of 1-2000 repeating monomer units selected from ethylene oxide, propylene oxide, methacrylamide, or ethylene glycol.

11. (original) The compound of claim 1, wherein M has a cleavable linkage selected from a disulfide, an ester, an enzyme specific peptide, a photocleavable linkage, or an acid labile group.

12. (original) The compound of claim 1, wherein X is $-C(O)R^{30}$, $-Y-N(R^{31})-Y^1-N(R^{32})-Y^2$ or $-O-N(R^{30})-Y^2$;

where R^{30}, R^{31} and R^{32} are each independently hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, het roaralkenyl, heteroaralkynyl, heterocyclyl or cycloalkyl; Y and Y^1 are sel cted as in (i) or (ii) as follows:

(i) Y is a direct link, and Y^1 is a direct link, $C(O)N(R^{35})$, $N(R^{35})C(O)N(R^{36})$, $C(S)N(R^{35})$, $N(R^{35})C(S)N(R^{36})$ or $C(O)N(R^{35})N(R^{36})C(O)N(R^{37})$; or

(ii) Y is C(O) or OC(O), and Y^1 is a direct link;

where R^{35}, R^{36} and R^{37} are each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl and cylcoalkyl; and

Y^2 is a salt of the hydrazino or oxyamino group, or any amino or hydrazino protecting group;

where R^{30}, R^{31}, R^{32}, R^{35}, R^{36}, R^{37} and Y^2 are unsubsituted or substituted with one or more substituents each independently selected from Z, wherein Z is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, cycloalkenyl, hydroxy, $S(O)_hR^{20}$, $NR^{20}R^{21}$, $COOR^{20}$, COR^{20}, $CONR^{20}R^{21}$, $OC(O)NR^{20}R^{21}$, $N(R^{20})C(O)R^{21}$, alkoxy, aryloxy, heteroaryl, heterocyclyl, heteroaryloxy, heterocyclyloxy, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, aralkoxy, heteroaralkoxy, alkoxycarbonyl, carbamoyl, thiocarbamoyl, alkoxycarbonyl, carboxyaryl, halo, pseudohalo, haloalkyl and carboxamido; h is 0, 1 or 2; and R^{20} and R^{21} are each independently selected from the group consisting of hydrogen, halo, pseudohalo, cyano, azido, nitro, trialkylsilyl, dialkylarylsilyl, alkyldiarylsilyl, triarylsilyl, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy, amino, amido, alkylamino, dialkylamino, alkylarylamino, diarylamino and arylamino.

13. (original) The compound of claim 12, wherein Y^2 is selected from monomethoxytrityl (MMT), dimethoxytrityl (DMT), 9-fluorenylmethoxy-carbonyl (FMOC), acetyl, trifluroracetyl (TFA), benzoyl, or a lower aliphatic hydrazon or oxim .

14. (original) The compound of claim 1, wherein X has the formula: -Y-N(R^{31})-Y^1-N(R^{32})-Y^2,

wherein:

Y and Y^1 are selected as in (i) or (ii) as follows:

(i) Y is a direct link, and Y^1 is a direct link, C(O)N(R^{35}), N(R^{35})C(O)N(R^{36}), C(S)N(R^{35}), N(R^{35})C(S)N(R^{36}) or C(O)N(R^{35})N(R^{36})C(O)N(R^{37}); or

(ii) Y is C(O) or OC(O), and Y^1 is a direct link;

where R^{35}, R^{36} and R^{37} are each independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl and cylcoalkyl;

Y^2 is a salt, or any amino or hydrazino protecting group; and

R^{31} and R^{32} are each independently hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl or cycloalkyl;

where R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{31}, R^{32}, R^{35}, R^{36}, R^{37} and Y^2 are unsubstituted or substituted with one or more substituents each independently selected from Z.

15. (original) The compound of claim 14, wherein X has the formula: -Y-NH-Y^1-NH-Y^2;

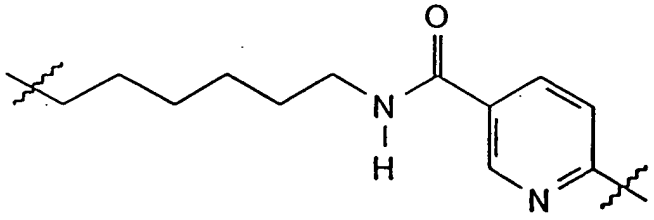
wherein Y and Y^1 are selected from (i) or (ii) as follows:

(i) Y is a direct link, and Y^1 is a direct link, C(O)NH, NHC(O)NH, C(S)NH, NHC(S)NH or C(O)NHNHC(O)NH; or

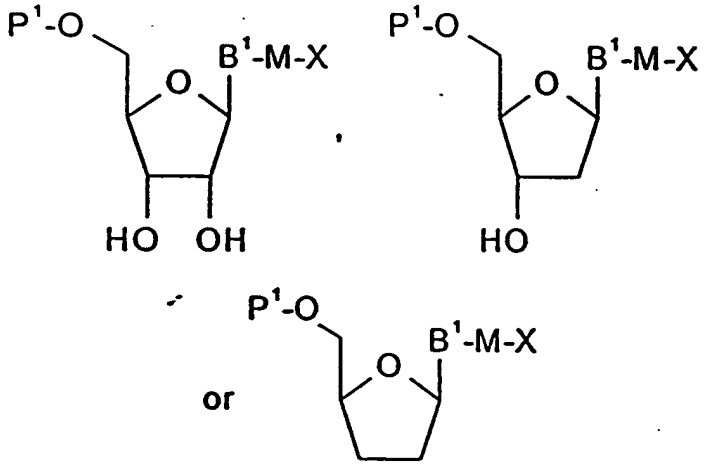
(ii) Y is C(O) or OC(O), and Y^1 is a direct link.

16. (original) The compound of claim 1, wherein M has 2,5-pyridylene attached to X; and 1-9 of the following groups, which can be combined in any order: CH_2, NH and C(O).

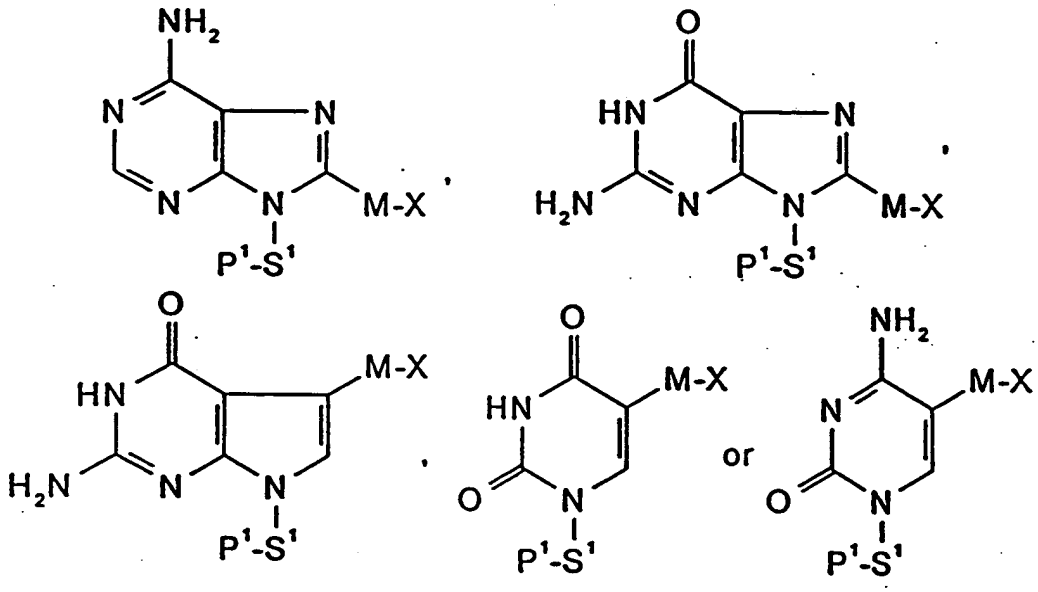
17. (original) The compound of claim 1, wherein M has the formula:



18. (original) The compound of claim 1 that has any of the formulae:

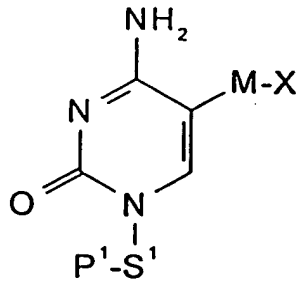


19. (original) The compound of claim 1 that has any of the formula:

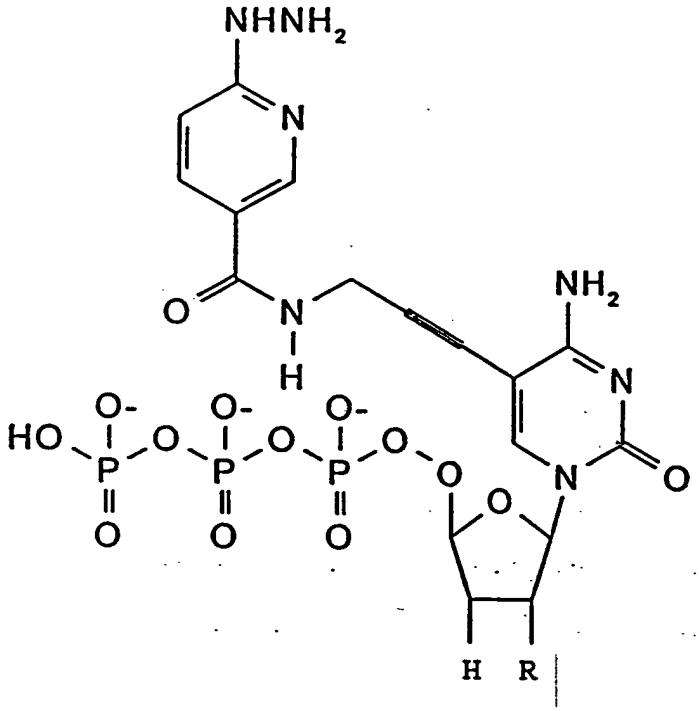


20. (original) The compound of claim 1, wherein B^1 is a cytosine.

21. (original) The compound of claim 1 that has the formula:

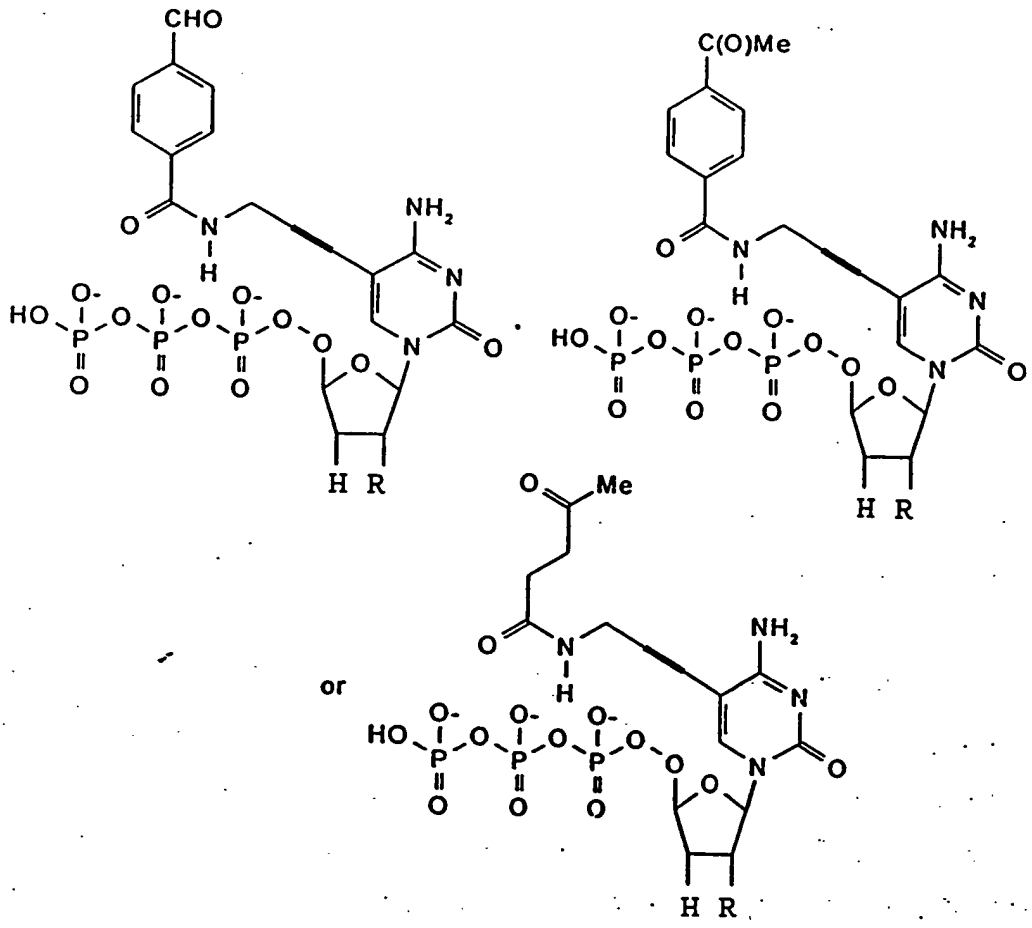


22. (original) The compound of claim 1 that has the formula:



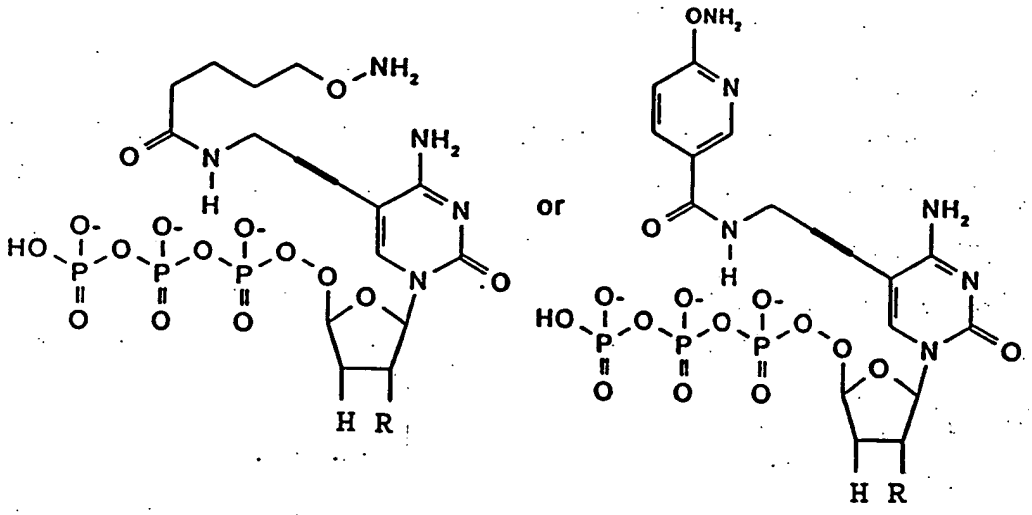
where each R is ~~independently~~ OH or H.

23. (original) The compound of claim 1 that has any of the formulae:



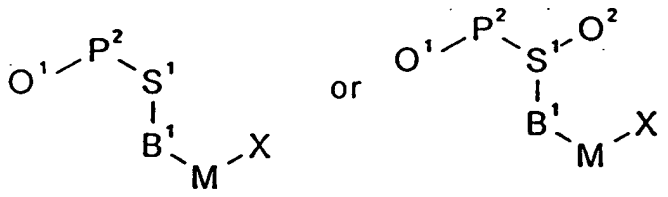
wherein each R is ~~independently selected from~~ OH and H.

24. (original) The compound of claim 1 that has the formula:



wherein each R is ~~independently~~ OH or H.

25. (original) A compound that has formula (II):



or a derivative thereof, wherein:

O^1 and O^2 are each independently an oligonucleotide or an analogs thereof;

P^2 is a phosphodiester group;

S^1 is a ribose, a deoxyribose or a dideoxyribose;

B^1 is a nucleobase;

X is a protected or unprotected hydrazino group, a protected or unprotected oxyamino group, or a carbonyl derivative; and

M is a divalent group having any combination of the following groups, which can be combined in any order: arylene, heteroarylene, cycloalkylene, $C(R^1)_2$, $-C(R^1)=C(R^1)-$, $>C=C(R^2)(R^3)$, $>C(R^2)(R^3)$, $-C\equiv C-$, O, $S(A)_a$, $P(D)_b(R^1)$, $P(D)_b(ER^1)$, $N(R^1)$, $>N^+(R^2)(R^3)$ and C(E); where a is 0, 1 or 2; b is 0, 1, 2 or 3; A is O or NR^1; D is S or O; and E is S, O or NR^1;

each R^1 is a monovalent group independently selected from hydrogen and M^1-R^4;

each M^1 is a divalent group independently having any combination of the following groups, which groups can be combined in any order: a direct link, arylene, heteroarylene, cycloalkylene, $C(R^5)_2$, $-C(R^5)=C(R^5)-$, $>C=C(R^2)(R^3)$, $>C(R^2)(R^3)$, $-C\equiv C-$, O, $S(A)_a$, $P(D)_b(R^5)$, $P(D)_b(ER^5)$, $N(R^5)$, $N(COR^5)$, $>N^+(R^2)(R^3)$ and C(E); where a is 0, 1 or 2; b is 0, 1, 2 or 3; A is O or NR^5; D is S or O; and E is S, O or NR^5;

R^4 and R^5 are each independently selected from the group consisting of hydrogen, halo, pseudohalo, cyano, azido, nitro, $SiR^6R^7R^8$, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, het roaryl, heteroaralkyl, het roaralkenyl, heteroaralkynyl,

heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and NR^9R^{10};

R^9 and R^{10} are each independently selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl and heterocyclyl;

R^2 and R^3 are selected from (i) or (ii) as follows:

(i) R^2 and R^3 are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl and heteroaryl; or

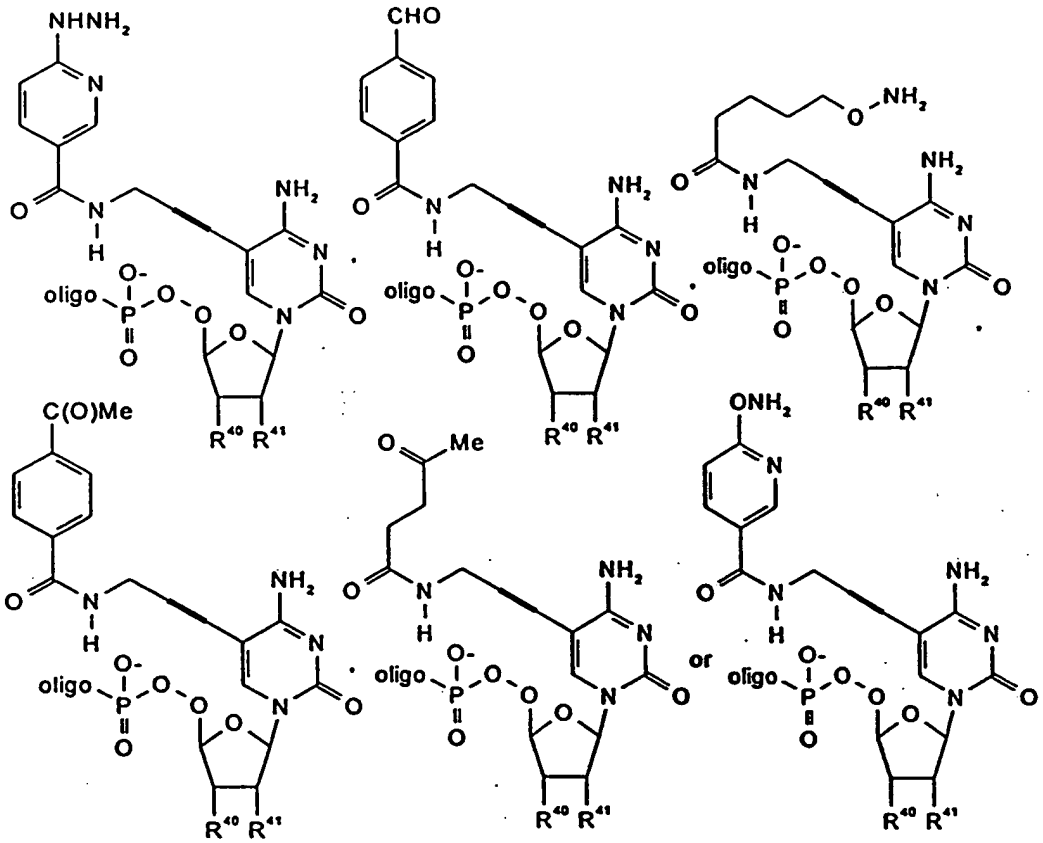
(ii) R^2 and R^3 together form alkylene, alkenylene or cycloalkylene;

R^6, R^7 and R^8 are each independently a monovalent group selected from hydrogen, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and NR^9R^{10}; and

R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9 and R^{10} are unsubstituted or substituted with one or more substituents each independently selected from Z, wherein Z is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, cycloalkenyl, hydroxy, $S(O)_hR^{20}$, $NR^{20}R^{21}$, $COOR^{20}$, COR^{20}, $CONR^{20}R^{21}$, $OC(O)NR^{20}R^{21}$, $N(R^{20})C(O)R^{21}$, alkoxy, aryloxy, heteroaryl, heterocyclyl, heteroaryloxy, heterocyclyloxy, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, aralkoxy, heteroaralkoxy, alkoxycarbonyl, carbamoyl, thiocarbamoyl, alkoxycarbonyl, carboxyaryl, halo, pseudohalo, haloalkyl and carboxamido; h is 0, 1 or 2; and R^{20} and R^{21} are each independently selected from the group consisting of hydrogen, halo, pseudohalo, cyano, azido, nitro, trialkylsilyl, dialkylarylsilyl, alkyldiarylsilyl, triarylsilyl, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy,

aralkoxy, heteroaralkoxy, amino, amido, alkylamino, dialkylamino, alkylarylamino, diarylamino and arylamino.

26. (original) The compound of claim 25 that has any of formula:



wherein R^{40} is selected from the group consisting of an oligonucleotide, H and OH; and R^{41} is selected from the group consisting of H and OH.

27. (original) The compound of claim 25 that is immobilized on a surface.

28. (original) The compound of claim 25 that is conjugated to a second component.

29. (original) A method for immobilizing oligonucleotides on a solid surface, comprising the step of:

reacting a compound of claim 25 or a plurality of said compounds with a solid surface; wherein:

if the compound has a hydrazino or oxyamino group, the solid surface has a carbonyl gr up; or

if the compound has a carbonyl group, the solid surface has a hydrazino or oxyamino group.

30. (original) An immobilized oligonucleotide prepared by the method of claim 29.

31. (original) A method for formation of an oligonucleotide conjugate, comprising the step of:

reacting the compound of claim 25 with a second component to form an oligonucleotide conjugate;

wherein the compound and the second component comprise complementary groups.

32. (original) An oligonucleotide conjugate prepared by the method of claim 31.

33. (original) The conjugate of claim 28, wherein the second component is selected from the group consisting of a fluorescein, a rhodamine and a cyanine dye.

34. (Original) A compound that has formula:

F*-M-X,

or a derivative thereof, wherein:

F* is a fluorophore;

X is a protected or unprotected hydrazino group, a protected or unprotected oxyamino group or a carbonyl group; and

M is a divalent group having any combination of the following groups, which can be combined in any order: arylene, heteroarylene, cycloalkylene, $C(R^1)_2$, $-C(R^1)=C(R^1)-$, $>C=C(R^2)(R^3)$, $>C(R^2)(R^3)$, $-C\equiv C-$, O, $S(A)_a$, $P(D)_b(R^1)$, $P(D)_b(ER^1)$, $N(R^1)$, $>N^+(R^2)(R^3)$ and C(E); where a is 0, 1 or 2; b is 0, 1, 2 or 3; A is O or NR^1; D is S or O; and E is S, O or NR^1;

each R^1 is a monovalent group independently selected from hydrogen and M^1-R^4;

each M^1 is a divalent group independently having any combination of the following groups, which groups can be combined in any order: a direct link, arylene, heteroarylene, cycloalkylene, $C(R^5)_2$, $-C(R^5)=C(R^5)-$,

$>C=C(R^2)(R^3)$, $>C(R^2)(R^3)$, $-C\equiv C-$, O, $S(A)_a$, $P(D)_b(R^5)$, $P(D)_b(ER^5)$, $N(R^5)$, $N(COR^5)$, $>N^+(R^2)(R^3)$ and C(E); where a is 0, 1 or 2; b is 0, 1, 2 or 3; A is O or NR^5; D is S or O; and E is S, O or NR^5;

R^4 and R^5 are each independently selected from the group consisting of hydrogen, halo, pseudohalo, cyano, azido, nitro, $SiR^6R^7R^8$, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and NR^9R^{10};

R^9 and R^{10} are each independently selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl and heterocyclyl;

R^2 and R^3 are selected from (i) or (ii) as follows:

(i) R^2 and R^3 are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl and heteroaryl; or

(ii) R^2 and R^3 together form alkylene, alkenylene or cycloalkylene;

R^6, R^7 and R^8 are each independently a monovalent group selected from hydrogen, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and NR^9R^{10}; and

R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9 and R^{10} are unsubstituted or substituted with one or more substituents each independently selected from Z, wherein Z is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, cycloalkenyl, hydroxy, $S(O)_hR^{20}$, $NR^{20}R^{21}$, $COOR^{20}$, COR^{20}, $CONR^{20}R^{21}$, $OC(O)NR^{20}R^{21}$, $N(R^{20})C(O)R^{21}$, alkoxy, aryloxy, heteroaryl, heterocyclyl, heteroaryloxy, heterocyclyloxy, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, aralkoxy, heteroaralkoxy, alkoxycarbonyl, carbamoyl, thiocarbamoyl, alkoxycarbonyl, carboxyaryl, halo, pseudohalo, haloalkyl and carboxamido; h is 0, 1 or 2; and R^{20} and

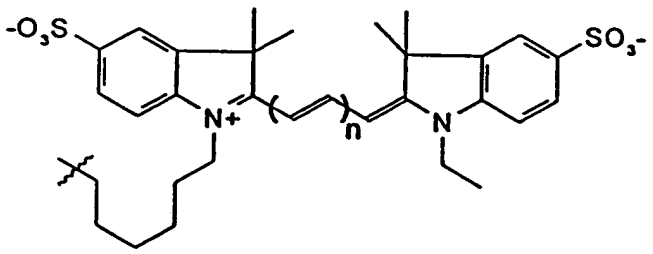
R^{21} are each independently selected from the group consisting of hydrogen, halo, pseudohalo, cyano, azido, nitro, trialkylsilyl, dialkylarylsilyl, alkyldiarylsilyl, triarylsilyl, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy, amino, amido, alkylamino, dialkylamino, alkylarylamino, diarylamino and arylamino.

35. (Original) The compound of claim 34, wherein:

the fluorescein is 5-aminofluorescein, 6-aminofluorescein, fluorescein 5-isothiocyanate, fluorescein 6-isothiocyanate or fluorescein thiosemicarbazide;

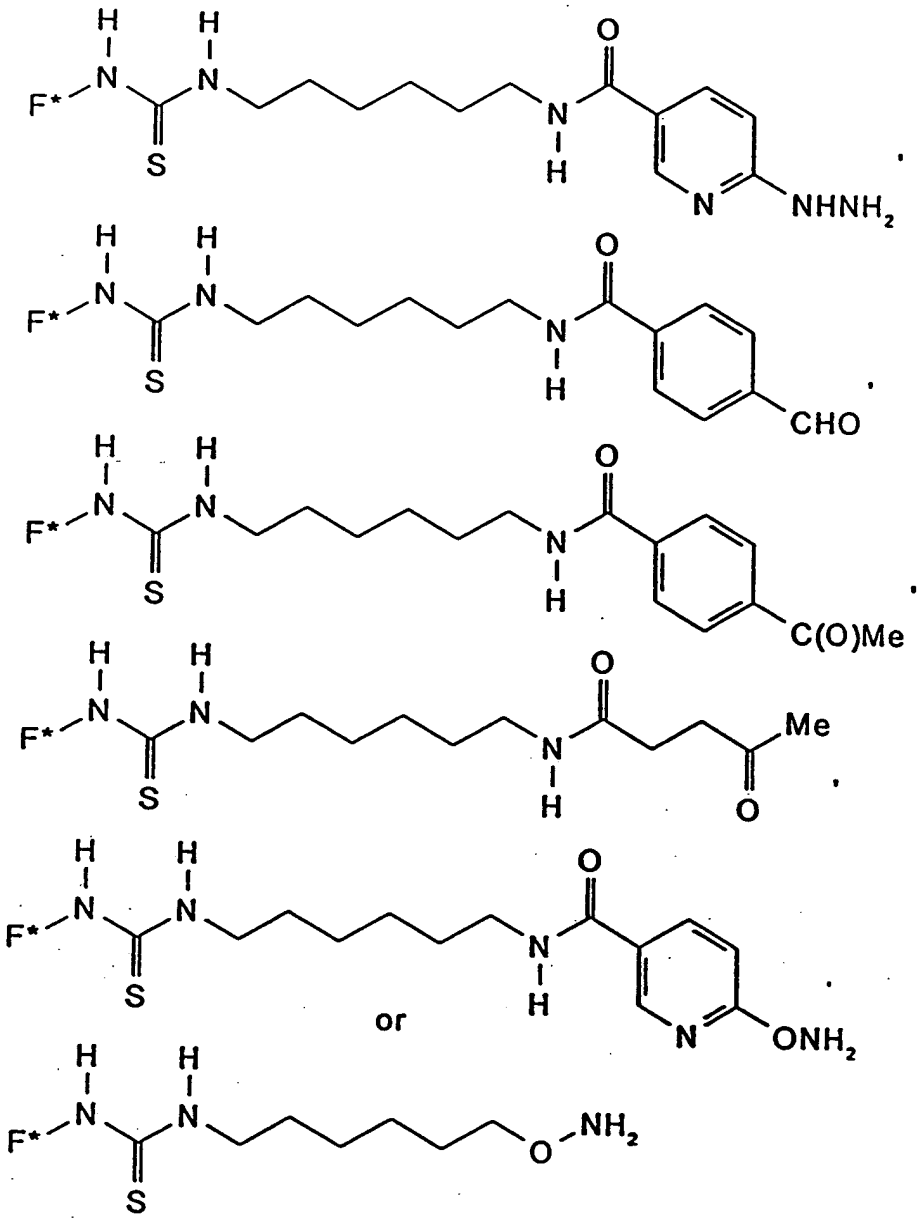
the rhodamine is rhodamine 123, rhodamine B, rhodamine B isothiocyanate, rhodamine 6G, ROX or rhodamine 110; and

the cyanine dye is Cy3 or Cy5 having the formulae:



n = 1 (Cy3), 2 (Cy5)

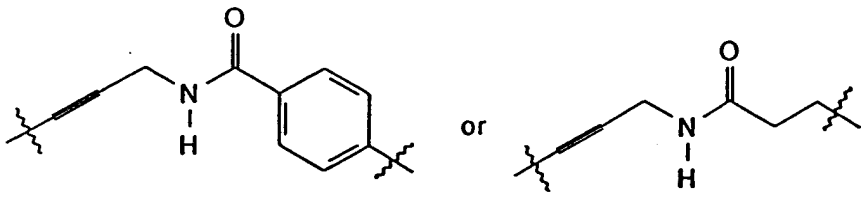
36. (Original) The compound of claim 35 that has any of the formulae:



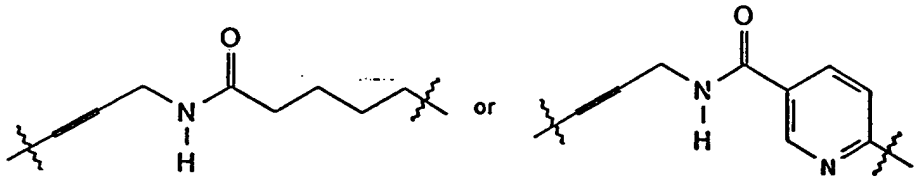
or a derivative thereof.

37. (original) The compound of claim 34, wherein F* is fluorescein, rhodamine, ROX, Cy3 or Cy5.

38. (Original) The compound of claim 1, wherein M has the formulae:



39. (Original) The compound of claim 1, wherein M has the formula:



40. (Original) The compound of claim 1, wherein M has 1-10 of the following groups, which can be combined in any order: arylene, $C(R^1)_2$, $-C\equiv C-$, $N(R^1)$ and C(E); where E is S, O or NR^1.

41. (Original) The compound of claim 1, wherein M has 1-10 of the following groups, which can be combined in any order: $C(R^1)_2$, $-C\equiv C-$, $N(R^1)$ and C(E); where E is S, O or NR^1.

42. (Original) The compound of claim 34, wherein the fluorophore is a fluorescein, a rhodamine, or a cyanine dye.

43. (Original) A composition, comprising nucleoside triphosphates, wherein at least one of the nucleoside triphosphates is a compound of claim 1.

44. (Original) A method of synthesizing a nucleic acid using the composition of claim 43.

45. (Original) A method of preparation of a hydrazino, oxyamino or carbonyl modified nucleoside triphosphate, comprising the steps of: (i) derivatizing a carboxylic acid selected from an ω-carbonyl, an ω-protected hydrazino, and an ω-protected oxyamino substituted carboxylic acid as the corresponding active ester;

(ii) reacting the resulting active ester with an amino substituted nucleoside triphosphate; and

(iii) deprotecting the hydrazino or oxyamino group, if present.

46. (Original) A method synthesis of a modified oligonucleotide, comprising contacting a composition having at least one nucleoside triphosphate of claim 1 with an enzyme for oligonucleotide synthesis under conditions where oligonucleotide synthesis occurs.